ORIGINS TECHNOLOGY SUMMARY

REQUIRED CAPABILITY		PERFORMANCE GOALS					TECHNOLOGY OPTIONS			
DESCRIPTION	PRIORITY	METRICS	UNITS	SIM	NGST	TPFA	DESCRIPTION	SOA	LIMIT	DEMO?
Metrology - Lasers	High	wavelength	um	1.3	0.5	0.5	**Nd:YAG**			ground test
		power	mW	30	10	10	wavelength	1.3 um	N/A	
							power	200 mW	TBD	
		stability (after stabiliza	part in	10 billion	TBD	10 billion				
							Semiconductor Lasers			flight
							wavelength	1.3 or 1.5	N/A	
							power	> 1 watt	TBD	
							Er-doped Fiber Lasers			
							Stabil. via Pound Drever Hall	> 10 to 14		ground test
							Stabil. via Acousto-optic Mod	TBD		ground test
Metrology	High	frequency separation	MHz	0.1	0.1	0.1	**Bragg Cells**			ground test
Frequency Shifters		throughput	dB	3	3	3	frequency separation			
							throughput			
							Acousto-Optics Tunable Filters			ground test
							frequency separation			
							throughput			
							Electro-Optic Modulators			ground test
							frequency separation			
							throughput			
							PZT Fiber Stretchers			ground test
							frequency separation			
							throughput			
Segment Control	High	Speed			moderate		Co-alignment			ground test
Algorithms		fidelity			high		Co-phasing			
							Phase Deversity			